### Task List:

1. NASA TLX papers to get an idea
2. Study about thematic analysis, correlation networks, maximum clique, bayesian regulatory networks , benjamini hochberg correction

Research Questions

1. How can NLP techniques be employed to **analyze textual data from social media platforms and academic communications to identify specific linguistic patterns and categorize mental disorders.** associated with prevalent mental disorders among undergraduate students?
2. To what extent can predictive models, leveraging NLP-derived features such as **sentiment analysis and language patterns, accurately forecast stress levels or mental health conditions among undergraduates**, paving the way for the development of personalized stress management plans?
3. **What is the accuracy and reliability of NLP-based approaches in categorizing mental disorders and predicting stress levels**, and how can these insights inform the creation of tailored stress management plans for individual undergraduate students?
4. **How does the integration of NLP and HCI facilitate the real-time monitoring of students' online interactions**, enabling proactive interventions and personalized recommendations to manage stress and enhance mental well-being among undergraduates?
5. **How effective is NLP at categorizing mental disorders and predicting their stress levels** for personalized stress management plans?

Research Questions (Old)

1. How will Natural Language Processing (NLP) techniques discern and categorize prevalent mental disorders among undergraduate students?
2. How well can predictive models using NLP-derived data correctly predict undergraduates' stress levels or mental health conditions, making it easier to create individualized stress management plans?
3. How does the integration of Natural Language Processing (NLP) and Human-Computer Interaction (HCI) help in managing stress and mental well-being of undergraduate students?
4. How can improving Human-Computer Interaction (HCI) methods help provide more tailored stress management programs to college students, taking into account their known psychological challenges and personal preferences?

Sample RQ -------------------------------------------------------------------

**RQ1**. Can Graph-based Analysis be utilized to identify correlations between de-

precision and its symptoms?

**RQ2**. Does the EEG data of cancer patients reveal any neurobiological signatures

associated with depression?

**RQ3**. Can non-invasively collected data uncover potential connections between

sketch features and the mental states of cancer patients?

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**Research Question 01**: how can we develop a non-verbal communication medium to screen the potential ADHD among students of different disciplines?

**Research Question 02:** how can we apply a self-assessment-based questionnaire method for ADHD patients to find out the prevalence and severity of ADHD among university students?

**Research Question 03:** Do excessive online education and digital media usage contribute to impairments in ADHD symptoms among students?

**Refined Question:** How can NLP techniques be employed to analyze textual data from social media platforms and academic communications to identify specific linguistic patterns associated with prevalent mental disorders among undergraduate students?

**Refined Question:** To what extent can predictive models, leveraging NLP-derived features such as sentiment analysis and language patterns, accurately forecast stress levels or mental health conditions among undergraduates, paving the way for the development of personalized stress management plans?

**Refined Question:** What is the accuracy and reliability of NLP-based approaches in categorizing mental disorders and predicting stress levels, and how can these insights inform the creation of tailored stress management plans for individual undergraduate students?

**Refined Question:** How does the integration of NLP and HCI facilitate the real-time monitoring of students' online interactions, enabling proactive interventions and personalized recommendations to manage stress and enhance mental well-being among undergraduates?

Resources - Important Papers

| **Name** | **Links** |
| --- | --- |
| Academic Stress and Mental Well-Being in College Students: Correlations, Affected Groups, and COVID-19 | [Academic Stress and Mental Well-Being in College Students: Correlations, Affected Groups, and COVID-19](https://www.frontiersin.org/articles/10.3389/fpsyg.2022.886344/full) |
| Student demographic Questionnaire | https://blog.hubspot.com/service/survey-demographic-questions |
| Questionnaire to Follow | [STRESS QUESTIONNAIRE](http://www.hcei.org/uploads/5/2/4/3/52438643/stress-questionnaire.pdf) |

### Datasets: (OLD)[Used in pre-thesis 2]

| **Dataset Name** | **Dataset Links** |
| --- | --- |
| COVID-19 and its Impact on Students | https://shorturl.at/bzCLT |
| Student Mental health | https://shorturl.at/goqtP |
| Machine Learning for Mental Health | https://shorturl.at/hiqAE |

## **Questionnaire Link:** [**Survey Questionnaire**](https://docs.google.com/document/d/15SuEEmiXfPhJs6i-lN2oSx-3uWd-YEWmIpvv6BQNNp4/edit#heading=h.co6sfwj64wqc)